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Spatial and temporal turbidity currents sediment deposition assessment

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Flume experiments are conducted to model sediment-laden density currents with continuous suspension supply. The initial density covers 1008, 1016, and 1032 kg/m3 and the bottom slope at 5.0 %. Sediment deposition profiles along the experimental flume are measured using an electrical resistance-based depositometer (ERBD). The measurement technique is described, its calibration procedure is presented and results shown. The discussion highlights the influence of the initial turbidity currents density respectively suspension concentration as well as the flow dynamics of the currents. After head passage, the main deposition takes place in the body and linear deposition pattern along the flume axis is observed.